

Project Close-out Report for Waste Area Group 4, Central Facilities Area

August 2005

**Idaho
Cleanup
Project**

The Idaho Cleanup Project is operated for the
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Project Close-out Report for Waste Area Group 4, Central Facilities Area

August 2005

**Idaho Cleanup Project
ICDF Implementation Project
Idaho Falls, Idaho 83415**

**Prepared for the
U.S. Department of Energy
Assistant Secretary for Environmental Management
Under DOE Idaho Operations Office
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ABSTRACT

This report documents that the review of all Comprehensive Environmental Response, Compensation, and Liability Act requirements for the Waste Area Group 4 sites at the Central Facility Area at the Idaho National Laboratory has been completed and all requirements have been met. This report also provides a guide to documentation prepared to satisfy the requirements.

In addition to applicable requirements and associated documentation, this report includes the activities required to continue into the future and the assignment of responsibilities to the Idaho Cleanup Project and the BEA organization.

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ACRONYMS

AR	Administrative Record
BEA	Battelle Energy Alliance
bls	Below Land Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facility Area
CFR	Code of Federal Regulations
DEQ	(Idaho) Department of Environmental Quality
DOE-ID	U.S. Department of Energy Idaho Operations Office
EDMS	Electronic Document Management System
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
FFA/CO	Federal Facility Agreement and Consent Order
FY	fiscal year
IC	institutional control
IDHW	Idaho Department of Health and Welfare
INEEL	Idaho National Engineering and Environmental Laboratory
INL	Idaho National Laboratory
MCL	maximum contaminant level
NAT	Neutron Access Tube
NFA	no further action
OU	operable unit
PCB	polychlorinated biphenyl
RA	remedial action
RCRA	Resource Conservation and Recovery Act
RD/RA	remedial design/remedial action

RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
SVOC	semi volatile organic compound
TDR	Time-domain Reflectometer
USGS	United States Geological Survey
WAG	waste area group

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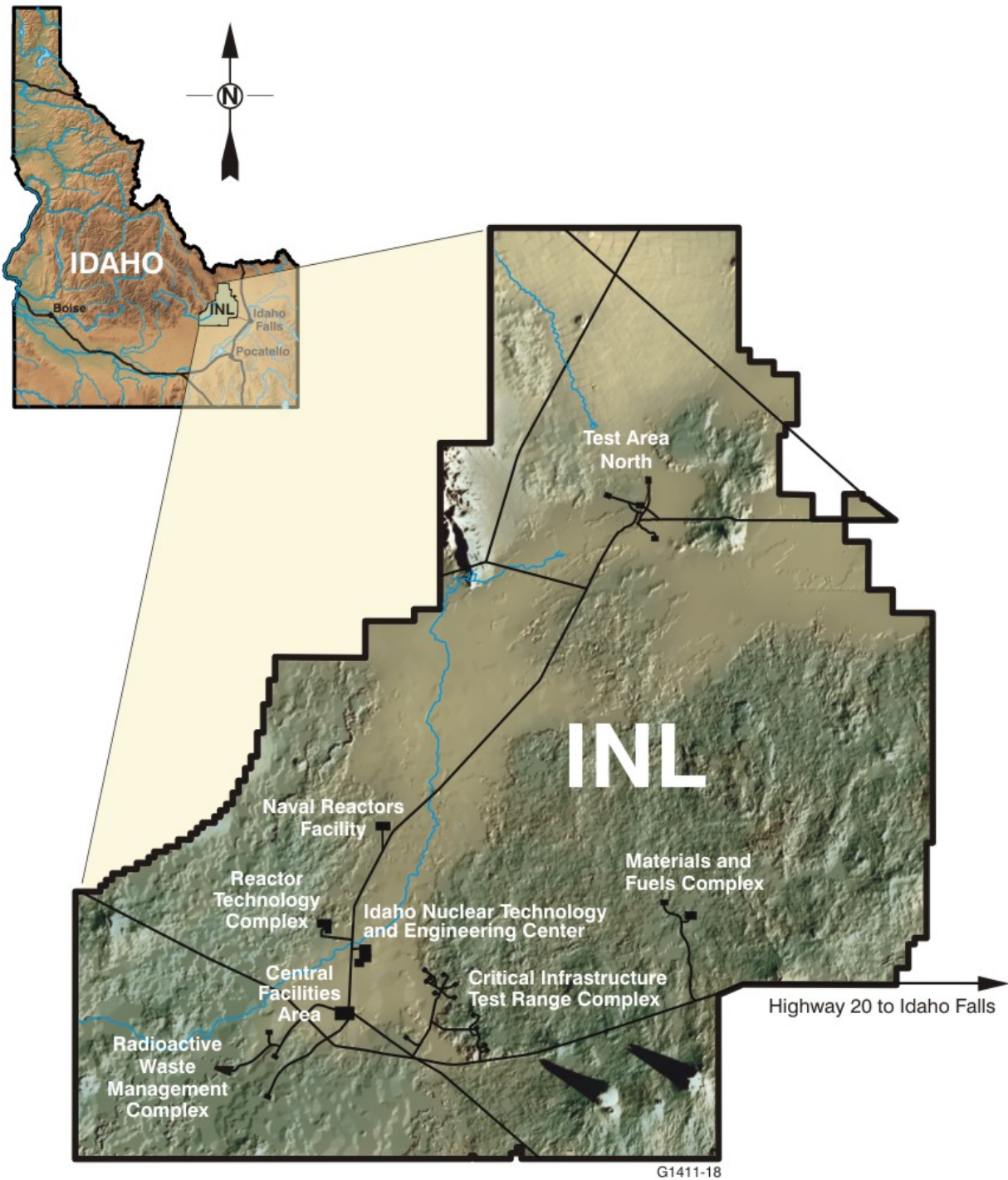
1. INTRODUCTION

This report documents that the review of all Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements for the Waste Area Group (WAG) 4 sites at the Central Facility Area (CFA) (see Figure 1) at the Idaho National Laboratory (INL) Site has been completed and all requirements have been met. This review is part of the WAG 4 close-out evaluation. The requirements and supporting documentation were developed in accordance with the *Federal Facility Agreement and Consent Order for the Idaho National Engineering and Environmental Laboratory* (DOE-ID 1991).

In addition to applicable requirements and associated documentation, this report includes the activities required to continue into the future and the assignment of responsibilities to the Idaho Cleanup Project and the Battelle Energy Alliance (BEA) organization (contractor for INL). These activities and responsibilities include groundwater monitoring; operations and maintenance, including institutional controls; and related inspections and reporting. This report includes contingency action for continuing 5-year reviews, outstanding actions to be performed, and details regarding how newly identified sites will be investigated and remediated or controlled (as applicable). It also includes the enforceable milestones and their associated completion dates.

In order to prepare this report, the following activities were performed:

- Review of all WAG 4 CERCLA decision documents and operations and maintenance and monitoring plans developed in accordance with the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991) and identification of applicable requirements. This report includes a list of these requirements and the associated compliance documentation.
- Tracking of decisions made on each WAG 4 site through the FFA/CO-required documents (DOE-ID 1991). This report includes the final decision on each site and the associated end-state document.
- Identification of the sites investigated in each type of document (initial assessment, Track 1s, Track 2s, and remedial investigation/feasibility studies [RI/FSs]) and the sites addressed in each of the three Records of Decision (RODs). This report includes a summary flow diagram of the sites included in each type of investigative document and ROD.



Idaho National Laboratory Site

Figure 1. Location of Central Facilities Area (CFA) at the Idaho National Laboratory Site.

2. REQUIREMENTS

The review and evaluation process included the compilation of all documents prepared in support of the WAG 4 sites. These documents include Track 1 and Track 2 Evaluations, Risk Assessments, RI/FSs, Remedial Design/Remedial Action Work Plans, Remedial Action Reports, RODs, Explanations of Significant Differences (ESDs), Monitoring Plans, and Operations and Maintenance Plans. The results of the review of these documents and the requirements included therein related to the WAG 4 sites are presented in Table 1.

An extensive search of all documents contained in the Environmental Restoration project files in the Electronic Document Management System (EDMS) was completed to identify all sites under WAG 4. Subsequently, a progressive search of available documents pertaining to each site was completed, and those documents were reviewed to ensure that each site had reached its end state. The results of the review relating to site-specific requirements and end-state determinations are presented in Table 2.

A site documentation flow diagram, which identifies the investigations performed to evaluate the WAG 4 sites, is presented in Figure 2. This diagram summarizes the progression of evaluations performed for the 52 WAG 4 sites.

Appendix A summarizes information on the major events performed as part of WAG 4 and the resulting documents produced.

Table 1. Requirements compliance matrix.

Requirements Document	Requirement/Commitment	Requirement/Commitment Document	Status
<i>Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13</i> (DOE/ID-10719)	Perform remedial action of CFA-04	<i>Remedial Design/Remedial Action Work Plan, CFA-04 Pond Mercury Contaminated Soils Operable Unit 4-13</i> (DOE/ID-11028)	Completed
	Perform remedial action of CFA-08	<i>Remedial Design/Remedial Action Work Plan for Waste Area Group 4 CFA-08 Sewage Plant Drain field, Operable Unit 4-13</i> (DOE/ID-10929)	Completed
	Perform remedial action of CFA-10	<i>Remedial Design/Remedial Action Work Plan INEEL Waste Area Group 4, Operable Unit 4-13 Transformer Yard (CFA-10),</i> (DOE/ID-10826)	Completed
<i>Post Record of Decision, Monitoring Workplan for the Central Facilities Area (CFA) Landfills I, II, and III Operable Unit (OU) 4-12</i> (INEL-95/0579)	Perform monitoring of groundwater, vadose zone, and infiltration at all three landfills.	<i>Post Record of Decision, Monitoring Workplan for the Central Facilities Area (CFA) Landfills I, II, and III Operable Unit (OU) 4-12</i> (INEL-95/0579)	Ongoing
<i>Remedial Design Remedial Action (RD/RA) Workplan for Central Facilities Area (CFA) Landfill I, II, and III Native Soil cover Project</i> (DOE/ID-10528)	Install engineered native soil cover over the three areas.	<i>Remedial Design Remedial Action (RD/RA) Workplan for Central Facilities Area (CFA) Landfill I, II, and III Native Soil cover Project</i> (DOE/ID-10528)	Completed
DOE-ID = U.S. Department of Energy Idaho Operations Office EDMS = Electronic Data Management System EPA = U.S. Environmental Protection Agency FFA/CO = Federal Facility Agreement and Consent Order FY = fiscal year INEEL = Idaho National Engineering and Environmental Laboratory OU = operable unit PCB = polychlorinated biphenyl RI/FS = remedial investigation/feasibility study ROD = Record of Decision TRA = Test Reactor Area			

Table 2. Site determination matrix.

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-01	CFA-09	Central gravel pit	X							OU 4-13 ROD (DOE/ID-10719)	This site was identified in the FFA/CO for Interim Action as part of the OU 10-05 Ordnance Sites Interim Action ROD. However, geophysical investigations revealed no evidence of ordnance material at the site and it was designated as a no action site in the OU 10-05 Ordnance Sites Interim Action ROD.
4-01	CFA-11	French drain containing a 5-in. shell north of CFA-633	X							OU 4-13 ROD (DOE/ID-10719)	This site was identified in the FFA/CO for Interim Action as part of the OU 10-05 Ordnance Sites Interim Action ROD. However, geophysical investigations revealed no evidence of ordnance material at the site and it was designated as a no action site in the OU 10-05 Ordnance Sites Interim Action ROD.
4-02	CFA-13	Dry well south of CFA-640	X							OU 4-13 ROD (DOE/ID-10719)	Per a non-time critical removal action the dry well was removed in 1977. Samples collected showed the soils below the dry well to be below risk based guidelines (OU 4-13 RI/FS).
4-02	CFA-14	Two dry wells near CFA-665	X							OU 4-13 ROD (DOE/ID-10719)	
4-02	CFA-15	Dry well near CFA-674	X							OU 4-13 ROD (DOE/ID-10719)	Per a non-time critical removal action, the dry well was removed in 1997. Samples collected showed the soils below the dry well to be below risk based guidelines (OU 4-13 RI/FS).
4-02	CFA-16	Dry well south of CFA-682 pump house	X							OU 4-13 ROD (DOE/ID-10719)	

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-03	CFA-18	Fire department training area, oil storage tanks	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-19	Gasoline tanks (2) east of CFA-606	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-20	Fuel oil tank at CFA-609 tank	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-21	Fuel tank at Nevada Circle 1 south of CFA-629	X							OU 4-13 ROD (DOE/ID-10719)	
4-03	CFA-22	Fuel oil tank at CFA-640	X							OU 4-13 ROD (DOE/ID-10719)	This tank, also referred to as CFA-640E, was removed in 1991. The NFA recommendation was made in the Idaho Department of Health and Welfare Recommendation from Track 2 Investigation of OU 4-09, (10290). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-23	Fuel oil tank at CFA-641	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-03	CFA-24	Fuel oil tank at Nevada Circle 2 south of CFA-629	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-25	Fuel oil tank at CFA-656 north side	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-27	Fuel oil tank at CFA-669	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-28	Fuel oil tank at CFA-674 west	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-29	Waste oil tank at CFA-664	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-30	Waste oil tank at CFA	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-31	Waste oil tank at CFA-665	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-03	CFA-31	Waste oil tank at CFA-754 active	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-32	Fuel tank at CFA-667 north side	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU4-13 ROD.
4-03	CFA-33	Fuel tank at CFA-667 south side	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-34	Diesel tank at CFA-674								OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-35	Sulfuric acid tank at CFA-674 west side	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-36	Gasoline tank at CFA-680	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-37	Diesel tank at CFA-637 south side	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-03	CFA-38	Fuel oil tank CFA-683	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the OU 4-12 ROD, (AR 10146). The no action decision is documented in the OU 4-13 ROD.
4-03	CFA-45	Underground storage tank	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the Idaho Department of Health and Welfare Recommendation from the Track 2 Investigation of OU 4-09 at INEL, (10290). The no action decision is documented in the OU 4-13 ROD.
4-04	CFA-39	Drum dock CFA-771	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the Track 1 No Further Action Determination, (5514). The no action decision is documented in the OU 4-13 ROD.
4-04	CFA-40	Returnable drum storage south of CFA-601	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the Track 1 Decision Documentation Package, (10278). The no action decision is documented in the OU 4-13 ROD.
4-04	CFA-41	Excess drum storage south of CFA-674	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the Track 1 Decision Documentation Package, (10277). The no action decision is documented in the OU 4-13 ROD.
4-05	CFA-04	Pond					X			OU 4-13 ROD (DOE/ID-10719)	A time critical removal action was performed at this site in 1997. Additional remediation was performed in 2003/2004 (DOE/NE-ID-11137).
4-05	CFA-17	Fire department training area	X							OU 4-13 ROD (DOE/ID-10719)	A Non-Time Critical Removal Action was performed at this site in 1997.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-05	CFA-47	Fire station chemical disposal	X							OU 4-13 ROD (DOE/ID-10719)	A Non-Time Critical Removal Action was performed at this site in 1997.
4-05	CFA-50	Shallow well east of CFA-654	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the No Further Action Determination for CFA-50 (AR 10401). The no action decision is contained in the OU 4-13 ROD.
4-06	CFA-06	Lead shop outside area	X							OU 4-13 ROD (DOE/ID-10719)	A time critical removal action was performed at this site in 1996.
4-06	CFA-43	Lead storage area	X							OU 4-13 ROD (DOE/ID-10719)	A removal action was performed at this site in 1996.
4-06	CFA-44	Spray paint booth drain	X							OU 4-13 ROD (DOE/ID-10719)	A time critical removal action was performed at this site in 1996. No soil was removed since analytical data indicated there was no contamination above clean-up goals.
4-07	CFA-07	French drain CFA-633		X						OU 4-13 ROD (DOE/ID-10719)	A time critical removal action was performed at this site in 1995.
4-07	CFA-12	French drain CFA-690 2 total	X							OU 4-13 ROD (DOE/ID-10719)	The no action recommendation is documented in the OU 4-13 ROD. The NFA determination for the north drain was made in the No Further Action Determination for CFA-48 and CFA-12 (AR 10402). The no action decision is documented in the OU 4-13 ROD.
4-07	CFA-48	Chemical washout south of CFA-633	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the No Further Action Determination for CFA-48 and CFA-12 (AR 10402). The no action decision is documented in the OU 4-13 ROD.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-08	CFA-08	Sewage plant drain field				X				OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the OU 4-13 ROD, DOE/ID-10719.
4-08	CFA-49	Hot laundry drain pipe	X							OU 4-13 ROD (DOE/ID-10719)	
4-09	CFA-10	Transformer yard					X			OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation is documented in the OU 4-13 ROD, DOE/ID-10719.
4-09	CFA-26	CFA-760 pump station fuel spill	X							OU 4-13 ROD (DOE/ID-10719)	
4-09	CFA-42	Tank farm pump station fuel spills	X							OU 4-13 ROD (DOE/ID-10719)	A time critical action to remove the buildings, and a non-time critical removal action to remove the soils were performed at the site.
4-09	CFA-46	Cafeteria oil tank spill CFA-721	X							OU 4-13 ROD (DOE/ID-10719)	A time critical removal action was performed at this site in 1996.
4-11	CFA-05	Motor pool pond	X							OU 4-13 ROD (DOE/ID-10719)	The NFA recommendation was made in the OU 4-11 ROD, (AR 5242). The no action decision is documented in the OU 4-13 ROD.
4-12	CFA-01	CFA Landfill I		X						OU 4-12 ROD (AR 10146)	Remedial action was completed at this site in 1997 with the construction of a landfill cover and installation of monitoring networks. The NFA recommendation was made in the OU 4-12 ROD-continued operation maintenance and monitoring.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
4-12	CFA-02	CFA Landfill II		X						OU 4-12 ROD (AR 10146)	Remedial action was completed at this site in 1997 with the construction of a landfill cover and installation of monitoring networks. The NFA recommendation was made in the OU 4-12 ROD-continued operation maintenance and monitoring.
4-12	CFA-03	CFA Landfill III		X						OU 4-12 ROD (AR 10146)	Remedial action was completed at this site in 1997 with the construction of a landfill cover and installation of monitoring networks. The NFA recommendation was made in the OU 4-12 ROD-continued operation maintenance and monitoring.
4-13	CFA-51	Drywell at north end of CFA-640	X							OU 4-12 ROD (AR 10146)	
4-13	CFA-52	Diesel fuel underground storage tank CFA-730 at bldg. CFA-613 bunkhouse	X							OU 4-13 ROD (DOE/ID-10719)	The tank at this site was removed in 1996.
10-08	CFA-10A	Soil filled concrete ring	X							Track 2 Report (DOE/NE-ID-11232)	This is a new site discovered subsequent to the OU 4-13 ROD. Results from the Track 2 investigation indicate that the site does not pose an unacceptable risk. This determination will be included in the OU 10-08 RI/FI and ROD.
10-08	CFA-53	Soil beneath CFA-617 wastewater piping									A new site identification has been submitted to the Agencies for review and concurrence which recommends No Further Action. Concurrence with this recommendation is pending.

Table 2. (continued).

OU	Initial Site No.	Site Description	No Action	ICs	Future Action Sites	Remedial Action		Interim Action	Met ROD Requirements	End State Document	Comments
						ICs	No ICs				
10-08	CFA-54	Buried waste pipe south of CFA-674									A Track 2 investigation is currently being performed. Any additional actions resulting from this investigation will be performed under OU 10-08.
CFA = Central Facilities Area DOE-ID = U.S. Department of Energy Idaho Operations Office EPA = U.S. Environmental Protection Agency IC = institutional control IDHW = Idaho Department of Health and Welfare NFA = no further action OU = operable unit ROD = Record of Decision											

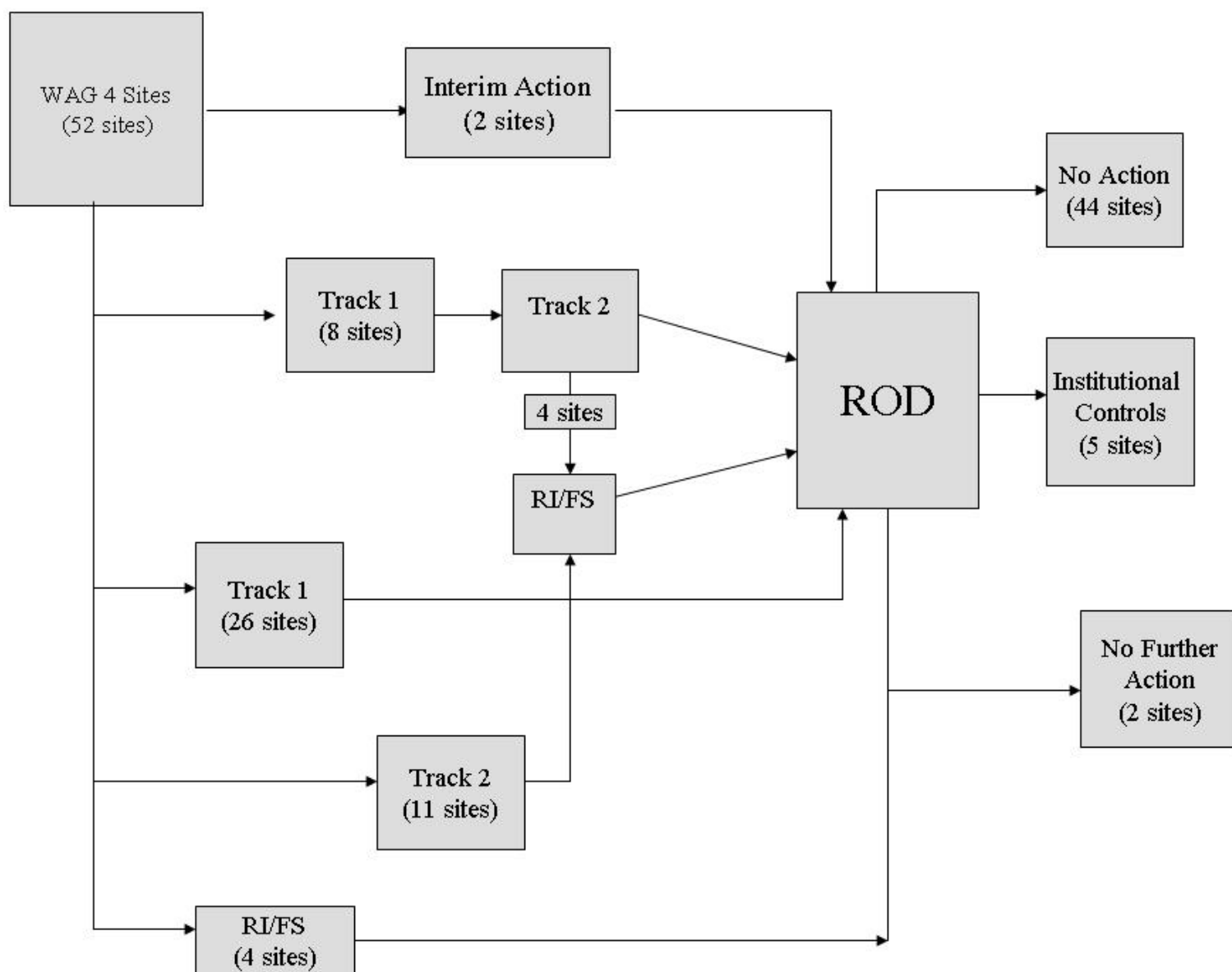


Figure 2. WAG 4 sites.

3. CLOSE-OUT EVALUATION

3.1 Achievement of Requirements

Three RODs were prepared to evaluate and address the WAG 4 sites. Table 2 indicating where the achievement of requirements is documented. The first ROD—*Central Facilities Area Motor Pool Pond Operable Unit 4-11, Waste Area Group 4* (AR 5242), addressed one site, the Motor Pool Pond. The second ROD—*Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (OU 4-12) and No Action Sites (OU 4-03)* (AR 10146)—addressed the three landfills in addition to 19 underground storage tank sites. A third ROD—*Final Comprehensive Record of Decision for Central Facilities Area, Operable Unit 4-13 Idaho National Engineering and Environmental Laboratory* (DOE/ID-10719) consolidates all previous information, data, evaluations, recommendations, and actions taken, regarding the 52 sites identified as WAG 4.

3.2 Groundwater

The groundwater pathway from WAG 4 sites was evaluated in the OU 4-13 Comprehensive RI/FS, *Comprehensive Remedial Investigation/Feasibility Study for the Central Facilities Area Operable Unit 4-13 at the Idaho National Engineering and Environmental Laboratory*, (DOE/ID-10680). No unacceptable risks were predicted via this pathway, however, the groundwater is being monitored under the Post ROD Monitoring Work Plan until such time as the five-year reviews show, and the Agencies agree, that it is no longer necessary.

3.3 Achievement of Milestones

The WAG 4 enforceable milestones and their associated completion dates are presented in Table 3. All identified FFA/CO-enforceable milestones related to WAG 4 have been completed.

3.4 Closure of Compliance Issues

No outstanding compliance issues regarding Resource Conservation and Recovery Act (RCRA) or CERCLA regulations were identified during this review. All work activities have been completed in accordance with the applicable or relevant and appropriate requirements.

Regulatory compliance issues related to the INL are entered, maintained, and tracked to resolution through a database (INL Compliance Disclosure Log), which is maintained by the Environmental Affairs Organization of the U.S. Department of Energy's prime contractor. A review of the Environmental Affairs Disclosure Log was completed and no outstanding compliance issues were identified for WAG 4 sites. Any requests for access of the information contained in the INL Compliance Disclosure Log should be directed to the U.S. Department of Energy Idaho Operations Office (DOE-ID).

In February 2002, representatives of the U.S. Environmental Protection Agency (EPA), Region 10; the Idaho Department of Environmental Quality (DEQ); and the National Enforcement Investigation Center completed a CERCLA regulatory compliance inspection at the INEEL. A review of the inspection results regarding WAG 4 sites revealed no compliance issues.

In accordance with the requirements stated in the FFA/CO (DOE-ID 1991), the U.S. Department of Energy has established and currently maintains a database for the compilation and retention of Site-wide data generated with respect to all sites either considered or accepted under the FFA/CO. These data are maintained and summarized in the Administrative Record (AR), which is located at the INL Technical

Table 3. Waste Area Group 4 Enforceable Milestones.

INEEL FFA/CO Milestones	Enforceable Date	Completed Date
Motor Pool Pond, OU 4-11 – Draft RI/FS submitted for Review	Dec. 1991	Nov. 1991
Motor Pool Pond, OU 4-11 – Draft ROD Submitted for Review	Oct. 1992	Oct. 1992
Landfills, OU 4-12 – Draft SOW Submitted for Review	Aug. 1992	Aug. 1992
Landfills, OU 4-12 – Draft Work Plan Submitted for Review	Jan. 1993	Nov. 1992
Comprehensive RI/FS, OU 4-13 – Draft SOW Submitted for Review	Aug. 1997	June 1996
Comprehensive RI/FS, OU 4-13 – Draft Work Plan Submitted for Review	Jan. 1997	Nov. 1996
Comprehensive RI/FS, OU 4-13 – Draft RI/FS Submitted for Review	Sep. 1998	Sept 1998
Comprehensive RI/FS, OU 4-13 – ROD Submitted for Review	July 1999*	
*A request for extension was granted by the agencies. The request separated the document into two deliverables – OU 4-13A (Interim Action ROD) and OU 4-13B (Comprehensive ROD).	Nov. 1999 (OU 4-13A)	Nov. 1999
	Jan. 2002 (OU 4-13B)	May 2000
FFA/CO = Federal Facility Agreement and Consent Order OU = operable unit RA = remedial action RD = remedial design RI/FS = remedial investigation/feasibility study ROD = Record of Decision SOW = Scope of Work		

Library in Idaho Falls, Idaho. Upon request, copies of these electronically maintained data will be made available to the EPA, DEQ, and members of the public.

As part of the project close-out activity, an extensive review of the Administrative Record and contractor-maintained EDMS was performed to ensure that all pertinent and relevant data and records have been included and are being maintained in accordance with the appropriate requirements. The results of this review revealed that all documents designated as either primary or secondary documents under the FFA/CO (DOE-ID 1991), in which action determinations have been made, were included and may be accessed in either the Administrative Record or EDMS. The review also determined that non-primary/secondary documents for those sites requiring further evaluation are included and are being maintained in the Administrative Record/EDMS.

This activity also included completion verification of quality assurance/quality control documents regarding the submittal of vendor data for materials used during the completion of the required remedial actions at WAG 4 sites. These data submittals are included in the EDMS, which was established for the compilation, maintenance, and retention of records.

4. SUMMARY OF THE FIRST WASTE AREA GROUP 4 FIVE-YEAR REVIEW FOR CFA-01, CFA-02 AND CFA-03 LANDFILLS

The EPA, with consultation from the DEQ, retains final authority over whether the 5-year review adequately addresses the protectiveness of remedies. Based upon a review of the available monitoring data and inspection reports, a protectiveness determination will be deferred until all the recommendations in the five year review are implemented and reported in an annual monitoring report. The Agencies may concur at that time that the remedy for the CFA Landfills I, II, and III is expected to be protective of human health and the environment and that exposure pathways that could result in an unacceptable risk are being controlled. The FY 2003 and FY 2004 monitoring reports discuss the activities that have taken place since the completion of the first 5-year review of the CFA landfills remedial action.

In accordance with the “National Oil and Hazardous Substances Pollution Contingency Plan” (40 CFR 300), a review of the selected remedy will be conducted no less than every 5 years for sites where contamination above risk-based concentrations is left in place. The 5-year reviews will continue to evaluate the remedy to determine if it remains protective of human health and the environment. The 5-year reviews will be conducted for those remediated sites with institutional controls at least until 2095 (i.e., until the 100-year institutional control period expires) or until it is determined during a 5-year review that controls and reviews are no longer necessary. The next 5-year review is currently being conducted under the purview of the Long-Term Stewardship organization with a draft submitted to the Agencies in June 2005. Reviews will continue to be conducted every 5 years thereafter until 2095 or until such time as they are determined to no longer be necessary and discontinued with concurrence of the Agencies. This review date may be moved up to accommodate an INL-wide programmatic review of institutional controls if agreed upon by the Agencies.

4.1 Issues Identified in the First Five-Year Review

The following are the substantive findings and issues from the 2002 five-year review:

1. Additional groundwater level data and moisture infiltration data are needed before it can be concluded that all remedies completed for the CFA landfills have been operating adequately and as designed.
2. Except for nitrate in groundwater from monitoring wells down gradient from the former and current sewage treatment facilities, no significant issues have arisen from the groundwater sample analytical results. The nitrate concentrations were below the maximum contaminant levels (MCLs) in samples collected from USGS-083 located down gradient from the CFA monitoring wells. However, nitrates have been detected in the CFA-MON-A-002 and CFA-MON-A-003 monitoring wells at concentrations equal to or above the MCL of 10 mg/L. The source of the nitrates in these wells is uncertain.
3. During the past 5 years, groundwater samples have been analyzed for alkalinity and anions (including nitrate, chloride, fluoride, and sulfate). Based on review of the analytical results, no anomalous concentrations have been detected in samples for alkalinity, chloride, fluoride, or sulfate. The detected chloride concentrations are elevated above what would normally be expected; however, this is attributed to up gradient impacts from INTEC.
4. Higher concentrations of iron and zinc were detected in some wells, but these higher concentrations appear to be related to the disintegration of carbon-steel casing and galvanized riser pipes used to

complete these wells. The iron and zinc concentrations in the wells are attributed to the galvanic corrosion of the well components.

5. While soil gas vapor samples from soil gas sample ports near and in the landfills have variable concentrations, the highest concentrations of VOCs are detected in the intermediate sample port depths of 9.1 to 11.6 m (30 to 38 ft) below land surface (bls) and 21.3 to 23.8 m (70 to 78 ft) bls near known fractures in the basalt. Lower soil gas VOC concentrations have been detected in samples from the lowermost gas sample ports at depths of 30.5 to 32.9 m (100 to 108 ft) bls. No concentrations of VOCs have been detected in the groundwater samples collected from groundwater monitoring wells located down gradient from the landfills, but not all detected VOCs in the gas vapor are also analyzed for in the groundwater (e.g., Freon).
6. Mostly spurious near-detection-level concentrations of organics have been observed only in CFA-MON-A-002. This should continue to be checked for any increases in future groundwater monitoring.
7. Based on the available results of the neutron access tube (NAT) and time-domain reflectometer (TDR) moisture monitoring in the landfills, it appears that there has not been detectable infiltration of moisture in the landfills after 1998. This is based upon limited data and below-normal precipitation years. In 2001, the wetting front only penetrated about 0.9 m (3 ft) into the landfills.
8. Because of potentially highly deviated wells, after collecting 1 year of monthly groundwater-level measurements from wells located near the landfills, it is still uncertain whether the groundwater flow direction from Landfills I and III is in a southerly to southwesterly direction. Therefore, additional evaluation of the data, as described herein, is necessary before a determination can be made as to whether the monitoring network is adequate to ensure that the remedial action is protective of human health and the environment.
9. Current reporting requirements for the monitoring results include the following:
 - a. Quality-assured soil gas vapor and groundwater monitoring data
 - b. Non-quality-assured data (i.e., groundwater elevations, NAT and TDR data)
 - c. An annual monitoring report.

4.2 Five-Year Review for CFA-04

The remedial action for CFA-04 was completed in October 2003. The selected alternative was excavation, and treatment by stabilization prior to disposal at the ICDF. The excavation was backfilled with clean fill, graded and revegetated. Confirmatory sampling verified that remediation goals were met. A five-year review of this site is not required since residual contamination is below the levels that drive this requirement.

4.3 Five –Year Review for CFA-08

The sewage plant drain field (CFA-08) has been capped with an engineered native soil cover. CFA-08 poses unacceptable risk to current occupational receptors, as well as the hypothetical 100-year future resident. The radiation level will decay to acceptable levels in about 185 years when it will no longer pose an unacceptable risk to human health. Inspections have been performed annually at CFA-08 since 2002 to verify the integrity of the cover. The inspections evaluated erosion, vegetation, animal

intrusion and radiological conditions. The first 5-year review for CFA-08 will be performed as part of the site wide 5-year review in 2005. The frequency of inspections at CFA-08 may be adjusted following this review: *Summary of Cleanup at the Idaho National Laboratory* (ICP/EXT-05-00806).

4.4 Five-Year Review for CFA-10

Remediation at this site was completed in July 2001. Confirmatory sampling indicated that all remaining soil at the site met the final remediation goal. Operation and maintenance activities or institutional controls are not required at this site because all contaminants that would preclude unlimited use were removed. A five-year review is therefore not required at CFA-10.

5. TRANSITION OF WASTE AREA GROUP 4 RESPONSIBILITIES

The review by the Idaho Cleanup Project of all CERCLA requirements for WAG 4 has been completed and all requirements have been met. All WAG 4 enforceable milestones have been completed and no outstanding RCRA or CERCLA compliance issues affecting WAG 4 were identified during the completion of this project close-out report. The recommendation of the first 5-year review was to continue monitoring and annual inspections of the CFA landfills. Table 4 summarizes WAG 4 activities and responsibilities.

Table 4. Division of Waste Area Group 4 Responsibilities.

Idaho Cleanup Project	Battelle Energy Alliance
<ul style="list-style-type: none"> Long-term monitoring, surveillance, and reporting associated with groundwater and institutional control sites Five-year reviews Further evaluation of sites identified post-OU 4-13 ROD (sites identified in Table 2) Maintenance of the landfill covers at CFA-01, CFA-02, and CFA-03 as well as monitoring and maintenance of the cover at CFA-08 Responsibility for all sites currently listed in the FFA/CO (DOE-ID 1991), including new sites added from Table 2 of this document 	<ul style="list-style-type: none"> Responsibility for any newly identified site discovered after October 1, 2003, whether resulting from an active site or an inactive source Identification of any new contaminant sources or new releases from active sites and the corrective actions to mitigate them

5.1 Continuing Idaho Cleanup Project Activities

With the submission of the *Remedial Action Report for the Idaho National Engineering and Environmental Laboratory Central Facilities Area Operable Unit 4-13* (DOE/NE-ID 11137), WAG 4 entered into a monitoring and surveillance mode of operation. Remedial actions have been completed at WAG 4; however, monitoring, maintenance, inspection, and reporting requirements will continue until determined to no longer be necessary during a 5-year review with concurrence of the Agencies.

Continuing Idaho Cleanup Project activities at CFA include the following:

- Long-term monitoring, surveillance, and reporting associated with groundwater and institutional control sites
- Topographical surveys and maintenance of soil cover's slope and contours; inspection for animal intrusion, vegetative growth, and cover erosion to verify cover integrity and surface drainage away from cover for CFA-01, CFA-02, CFA-03 and CFA-08 (Except for topographical survey. This is not required at CFA-08).
- Survey of radiation levels at CFA-08
- Five-year reviews
- Further evaluation of sites identified post-OU 4-13 ROD (CFA-10A, CFA-53, and CFA-54 sites identified in Table 2 to be addressed under OU 10-08)
- Maintenance of vegetation on sewage leach pond cover and chemical waste pond cover
- Responsibility for all sites currently listed in the FFA/CO (DOE-ID 1991), including new sites added from Table 2 of this document

The activities detailed in the following subsections will remain the responsibility of the Idaho Cleanup Project.

5.1.1 Groundwater Monitoring

Groundwater monitoring at the central Facilities Area is being conducted pursuant to the requirements delineated in the *Record of Decision – Declaration for Central Facilities Area Landfills II, II and III (Operable Unit 4-12), and No Action Sties (Operable Unit 4-03)* (AR 10146), and Agency recommendations documented in the *Central Facilities Area Landfills I, II, and III Five-Year Review Supporting Documentation* (DOE/ID-10981).

An intensive groundwater monitoring task was performed during 1996-2002. The agencies have agreed that this period has ended, and long term monitoring is now being performed under the current revision of the Post ROD Monitoring Work Plan.

This plan identifies the wells to be monitored, constituents and parameters to be monitored, frequency of monitoring, reporting requirements, and the criteria for future decisions. The objective of the monitoring at the landfills is (1) to establish a baseline of potential contaminant concentrations in the Snake River Plain Aquifer against which future data can be compared, and (2) to ensure that drinking water standards are not exceeded in the aquifer due to contaminant migration from the landfills. Infiltration monitoring and vadose zone monitoring, which are included in this plan, are designed to evaluate the effectiveness of the native soil cover and migration of potential contaminants from the landfills.

Agency recommendations in the Five-Year Review Documentation are to continue soil gas monitoring and groundwater monitoring at CFA on an annual basis. Landfill moisture-infiltration monitoring at the landfills will continue on a monthly/bimonthly basis, until the Agencies decide otherwise as documented in a 5-year review.

The Idaho Cleanup Project will retain the responsibility of the monitoring outlined in the monitoring plan and for implementing corrective actions, if required.

5.1.2 Operation and Maintenance including Institutional Controls

There are five sites at CFA that require institutional controls because of residual contamination – three closed landfills (CFA-01, CFA-02, CFA-03), the CFA French Drains (CFA-07), and the CFA Sewage Plant Drain field (CFA-08).

As documented in the *Operations and Maintenance Plan for the Final Selected Remedies at Central Facilities Area, Operable Unit 4-13* (DOE/ID-10931), annual inspections will be performed at CFA-01, CFA-02, CFA-03 and CFA-08. The required inspections include the activities summarized in Table 5 below.

Table 5. Required inspections.

Site	O&M Requirement	Action
CFA Landfill I (CFA-01)	Periodic topographical surveys and maintenance of soil cover's slope and contours; inspection for animal intrusion, vegetative growth, and cover erosion to verify cover integrity and surface drainage away from cover. Periodic inspection of soil monitoring equipment.	Topographical survey conducted in concurrence with 5-year reviews. Inspection of soil monitoring equipment. Annual inspection and maintenance of soil cover to verify and ensure cover integrity.
CFA Landfill II (CFA-02)	Periodic topographical surveys and maintenance of soil cover's slope and contours; inspection for animal intrusion, vegetative growth, and cover erosion to verify integrity and surface drainage away from cover. Periodic inspection of soil monitoring equipment. Periodic inspection and corrective maintenance of rock armoring.	Topographical survey conducted in concurrence with 5-year reviews. Inspection of soil monitoring equipment. Annual inspection and maintenance of soil cover to verify and ensure cover integrity. Annual inspection and maintenance of rock armoring
CFA Landfill III (CFA-03)	Periodic topographical surveys and maintenance of soil cover's slope and contours; inspection for animal intrusion, vegetative growth, and cover erosion to verify cover integrity and surface drainage away from cover. Periodic inspection of soil monitoring equipment.	Topographical survey conducted in concurrence with 5-year reviews. Inspection of soil monitoring equipment. Annual inspection and maintenance of soil cover to verify and ensure cover integrity.
Sewage Plant Drain field (CFA-08)	Periodic inspection and maintenance of soil cover's slope; inspection for animal intrusion, vegetative growth, and cover erosion to verify cover integrity and surface drainage away from cover. Periodic survey of radiation levels.	Annual inspection and maintenance of soil cover to verify and ensure cover integrity. Survey of radiation levels in 2005 and 2007.

Institutional controls are in place at CFA-07 (French Drain site) to control access activities such as drilling or excavation, as residual lead and radionuclide contamination is present at depths below 13 ft. These controls consist of property transfer requirements. No further action is required at this site.

5.1.3 Five-Year Reviews

In accordance with the requirements of "National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR 300), for sites where contamination is left in place above risk-based concentrations, a review of the selected remedy is required to be conducted by the lead federal agency on

no less than a 5-year cycle, or until it is determined by the Agencies to be unnecessary. The purpose of the reviews is to evaluate the implemented remedies and determine whether they are functioning as intended and remain protective of human health and the environment. For WAG 4, these reviews will include sites CFA-01, CFA-02, CFA-03, CFA-07, and CFA-08. Based on the results of the 5-year reviews, institutional controls may be removed or added, and waste sites may be removed from further review, with the approval of the Agencies.

5.1.4 New Sites

Subsequent to the issuance of the OU 4-13 ROD in July 2000, three new sites were identified at CFA. Site CFA-10A is a small site within the boundaries of the CFA-10 site. Characterization was performed at this site and it was determined that the site does not post an unacceptable risk.

CFA-53 consists of contaminated soils beneath wastewater piping associated with the CFA-617 laundry facility. CFA-54 consists of a buried waste pipe used to carry waste from the Chemical Engineering Laboratory in Building CFA-674 to the CFA-04 pond.

Additional details regarding these sites are provided in 5.1.9, 5.1.10, and 5.1.11, respectively.

5.1.5 Maintenance of Vegetation and Rock Armor

The Long-term Stewardship will retain responsibility for the inspection and maintenance of the engineered soil covers at the three landfills, and of the rock armor on the north end of CFA-02, Landfill II. The activities will be performed in accordance with requirements delineated in the *Operations and Maintenance Plan for the Final Selected Remedies at Central Facilities Area, Operable Unit 4-13* (DOE/ID-10931).

5.1.6 Responsibility for Sites Currently Listed in the Federal Facility Agreement and Consent Order

The Idaho Cleanup Project will retain responsibility for all inactive sites currently listed in the FFA/CO. If circumstances indicate that a site was not evaluated correctly, the Idaho Cleanup Project will retain responsibility for any necessary actions required to mitigate the situation. However, if ongoing activities at the facility have caused new contamination at a previously determined inactive site, this new contamination would qualify as a new source or new site, and the BEA organization will be responsible for funding any investigation and action required to mitigate the situation.

5.1.7 Complete Characterization CFA Asbestos Landfill

There is an asbestos operating landfill at CFA used to dispose of asbestos waste removed during maintenance and DD&D activities at the INL. Once operations are discontinued and the site is closed, this site may require long term institutional controls to prevent intrusion. The landfill is operated under the purview of BEA. If it is determined that the landfill is considered a Solid Waste Management Unit, it may require closure in accordance with applicable regulatory requirements. If closure is required, BEA will be responsible for funding the closure activities and ICP will provide the necessary regulatory interface. The Idaho Cleanup Project will retain responsibility for completing the characterization of the CFA-53 and CFA-54 sites that have been incorporated under OU 10-08. Site CFA-10A has already been characterized. The determination resulting from this characterization will be documented in the OU 10-08 ROD.

5.1.8 CFA-10A: Soil-Filled Concrete Ring

The CFA-10A site consists of a soil-filled concrete ring within the boundaries of the CFA-10 site that was previously remediated. The site was evaluated under a Track 2 investigation conducted in 2004 as reported in the *Track 2 Summary Report for Operable Unit 10-08 Sites MISC-033, CFA-10A, TRA-60, and TRA-63* (DOE/NE-ID-11232). Samples were collected from six core holes- five drilled around the perimeter of the ring, and one in the center. Samples were collected at various depths from each core hole and analyzed for gamma-emitting radionuclides, tritium, technetium-99, strontium-90, semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (diesel range organics and gasoline range organics for the soil samples, oil and grease and total petroleum hydrocarbons for the liquid sample collected from within the ring), and total metals. The soil sample collected from the 4-6 ft depth (from the center of the ring above the liquid) was also analyzed for volatile organic compounds, as was the liquid sample. Based on the analytical results, it was determined that the site does not pose an unacceptable risk to human health and the environment. This determination will be included in the OU 10-08 RI/FS and subsequent ROD.

5.1.9 CFA-53: Soil Beneath CFA-617 Wastewater Piping

The CFA-53 site consists of contaminated soils that were discovered beneath the CFA-617 wastewater piping during the D&D of the CFA-617 laundry facility. A New Site Identification has been submitted to the Agencies for review and concurrence with the site recommended for No Further Action under the FFA/CO. Concurrence with the recommendation from the Agencies is pending.

5.1.10 CFA-54: Buried Waste Pipe south of CFA-674

The CFA-54 site consists of a buried waste pipe that was used to carry waste from the Chemical Engineering Laboratory in Building CFA-674 to the CFA-04 pond. Subsequent to the completion of the remedial action at the CFA-04 pond, sampling revealed elevated levels of mercury in and underneath the pipe. The pipe was recognized and associated with the pond but was not officially added to the pond description in the FFA/CO, so remedial actions conducted at the pond in 2003 included no actions for the pipe area. Currently, a Track 2 investigation is being conducted at the CFA-54 pipe under the purview of OU 10-08. Any additional actions resulting from the Track 2 investigation at the site will be performed under OU 10-08.

5.2 Future Battelle Energy Alliance Organization Responsibilities

The BEA organization will be responsible for any newly identified sites resulting from releases from active sites identified at CFA. In addition, the BEA organization will be responsible for identification of any new contaminant sources from active sites and the corrective actions to mitigate them. At the discretion of the BEA organization, the any new sites or additional release sites may be addressed either under the FFA/CO (DOE-ID 1991) if they qualify as a solid waste management unit, as a RCRA corrective action, or as an emergency response. The BEA organization will retain the option of addressing these sites either internally, through the use of resources held by the Idaho Cleanup Project, or by outside subcontractors.

6. REFERENCES

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- AR 5242, 1992, *Central Facilities Area Motor Pool Operable Unit 4-11 Waste Area Group 4*, Administrative Record, January 1992.
- AR 10146, 1995, *Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (OU 4-12) and No Action Sites (OU 4-03)*, Administrative Record, October 1995.
- AR 10401, 1997, *Action Determination for CFA-04, CFA-17 & CFA-47 – To Be Evaluated in OU 4-13 Remedial Investigation Feasibility Study (RI/FS) Baseline Risk Assessment (BRA) – No Further Action Determination for CFA-50 in Operable Unit (OU) 4-05 – Track 2 Investigation*, Administrative Record, March 12, 1997.
- AR 10402, 1997, *Action Determination for CFA-07 & CFA-12 (South Drain Only)-to be Evaluated in OU 4-13 RI/FS Baseline Risk Assessment (BRA) and no Further Action Determination for CFA-48 & CFA 12 (North Drain) for Operable Unit (OU) 4-07-Track 2 Investigations*, Administrative Record, March 12, 1997.
- DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Docket No. 1088-06-29-120, U.S. Department of Energy Idaho Field Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.
- DOE/ID-10528, *Remedial Design Remedial Action (RD/RA) Workplan for Central Facilities Area (CFA) Landfill I, II, and III Native Soil cover Project*, Rev. 0, 1996.
- DOE/ID-10680, *Comprehensive Remedial Investigation/Feasibility Study for the Central Facilities Area Operable Unit 4-13 at the Idaho National Engineering and Environmental Laboratory*, Rev. 1, July 2000.
- DOE/ID-10719, *Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13*, Rev. 2, July 2000.
- DOE/ID-10826, *Remedial Design/Remedial Action Work Plan for INEEL Central Facilities Area Operable Unit 4-13 Transformer Yard (CFA-10)*, Rev. 0, April 2001.
- DOE/ID-10929, *Remedial Design/Remedial Action Work Plan for Waste Area Group 4 CFA-08 Sewage Plant Drainfield, Operable Unit 4-13*, Rev. 0, March 2002.
- DOE/ID-10931, *Operations and Maintenance Plan for the Final Selected Remedies at Central Facilities Area, Operable Unit 4-13*, Rev. 1, April 2004.
- DOE/ID-10981, *Central Facilities Area Landfills I, II, and III Five-Year Review Supporting Documentation*, Rev. 0, November 2002.
- DOE/ID-11028, *Waste Area Group 4, CFA-04 Pond Mercury-Contaminated Soils, Operable Unit 4-13*, Rev. 0, February 2003.

DOE/NE-ID 11137, *Remedial Action Report for the Idaho National Engineering and Environmental Laboratory Central Facilities Area Operable Unit 4-13*, Rev. 1, September 2004.

DOE/NE-ID-11232, *Track 2 Summary Report for Operable Unit 10-08 Sites MISC-033, CFA-10A, TRA-60, and TRA-63*, Draft, July 2005.

ICP/EXT-05-00806, *Summary of Cleanup at the Idaho National Laboratory Site*, Rev. 0, March 2005.

INEL-95/0579, *Post Record of Decision Monitoring Work Plan for the Central Facilities Area Landfills I, II, and III Operable Unit (OU) 4-12*, Rev. 5, October 2003.

Appendix A

Major Events and Documents for WAG 4

Appendix A

Major Events and Documents for WAG 4

A-1. MAJOR WAG 4 EVENTS AND DOCUMENTS

Major WAG 4 Events and Documents	Date
CFA-04 Initial Assessment	October 1986
<i>Record of Decision, Central Facilities Area Motor Pool Pond, Operable Unit 4-11, Waste Area Group 4 – signed (DOE-ID 1992)</i>	December 1992
CFA-04 Pond time-critical removal action	1994
Time-critical removal action completed at CFA-07 French Drains	1995
<i>Record of Decision Declaration for Central Facilities Area Landfills I, II, and III (Operable Unit 4-12), and No Action Sites (Operable Unit 4-03) – signed (DOE-ID 1995)</i>	October 1995
<i>Remedial Design/Remedial Action Work Plan for Central Facilities Area Landfills I, II, and III Native Soil Cover Project Operable Unit 4-12 (DOE-ID 1996)</i>	April 1996
Remedial action at CFA Landfills I, II, and III – start	June 1996
Remedial action at CFA Landfills I, II, and III – end	April 1997
<i>Post Record of Decision Monitoring Plan Central Facilities Area Landfills I, II, and III Operable Unit 4-12 (INEEL 2003a)</i>	June 1997
<i>Remedial Action Report CFA Landfills I, II, and III Native Soil Cover Project Operable Unit 4-12 (DOE-ID 1997)</i>	September 1997
<i>Comprehensive Remedial Investigation/Feasibility Study for the Central Facilities Area Operable Unit 4-13 at the Idaho National Engineering and Environmental Laboratory complete (DOE-ID 2000a)</i>	July 2000
<i>Final Comprehensive Record of Decision for Central Facilities Area Operable Unit 4-13 signed (DOE-ID 2000b)</i>	July 2000
<i>Remedial Design/Remedial Action Work Plan Idaho National Engineering and Environmental Laboratory Central Facilities Area, Operable Unit 4-13 Transformer Yard (CFA-10) (DOE-ID 2001)</i>	April 2001
Remedial action at CFA-10 Transformer Yard – start	June 2001
Remedial action at CFA-10 Transformer Yard – end	August 2001
<i>Remedial Design/Remedial Action Work Plan for Waste Area Group 4, CFA-08 Sewage Plant Drainfield, OU 4-13 (DOE-ID 2002a)</i>	March 2002
Remedial action at CFA-08 Sewage Plant Drainfield – start	March 2002
<i>Operations and Maintenance Plan for the Final Selected Remedies and Institutional Controls at Central Facilities Area, Operable Unit 4-13 complete (DOE-ID 2002b)</i>	March 2002

(continued).

Major WAG 4 Events and Documents	Date
<i>Construction Complete Report for the Idaho National Engineering and Environmental Laboratory, Central Facilities Area, Operable Unit 4-13, Transformer Yard (CFA-10) (DOE-ID 2002c)</i>	April 2002
Remedial action at CFA-08 Sewage Plant Drainfield – end	November 2002
Five-year statutory review of the CFA Landfills I, II, and III (DOE-ID 2002d)	November 2002
<i>Waste Area Group 4 Remedial Design/Remedial Action Work Plan, CFA-04 Pond Mercury-Contaminated Soils, Operable Unit 4-13 (DOE-ID 2003a)</i>	February 2003
<i>Construction Complete Report for the Idaho National Engineering and Environmental Laboratory, Central Facilities Area, Operable Unit 4-13, CFA-08 Sewage Plant Drainfield (DOE-ID 2003b)</i>	June 2003
<i>Explanation of Significant Differences to the Record of Decision to the Record of Decision for the Central Facilities Area, Operable Unit 4-13 (DOE-ID 2003c)</i>	February 2003
Remedial action at CFA-04 Mercury Pond – start	June 2003
Remedial action at CFA-04 Mercury Pond – end	November 2003
<i>Remedial Action Report for the Idaho National Engineering and Environmental Laboratory, Central Facilities Area, Operable Unit 4-13 (DOE-ID 2004a)</i>	September 2004

CFA = Central Facilities Area
DOE-ID = U.S. Department of Energy Idaho Operations Office
INL = Idaho National Laboratory

A-2. REFERENCES

- 40 CFR 300, 2003, “National Oil and Hazardous Substances Pollution Contingency Plan,” *Code of Federal Regulations*, Office of the Federal Register, August 2003.
- 40 CFR 300.5, 2003, “National Oil and Hazardous Substances Pollution Contingency Plan—Definitions,” *Code of Federal Regulations*, Office of the Federal Register, August 2003.
- 42 USC § 9601 et seq., 1980, “Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA/Superfund),” *United States Code*, December 11, 1980.
- DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Record No. 1088-06-29-120, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.
- DOE-ID, 1992, *Record of Decision – Central Facilities Area Motor Pool Pond, Operable Unit 4-11, Waste Area Group 4*, 5242, Rev. 0, U.S. Department of Energy-Idaho Operations Office, January 1992.
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- DOE-ID, 1996, *Remedial Design/Remedial Action Work Plan for Central Facilities Area Landfills I, II, and III Native Soil Cover Project Operable Unit 4-12*, DOE/ID-10528, Rev. 0, U.S. Department of Energy Idaho Operations Office, April 1996.
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